

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method of isolating a desired nucleic acid from a biological solution, that may contain other species including nucleic acids, proteins, other high molecular weight compounds, salts and other low-molecular weight substances, which method comprises selectively precipitating the desired nucleic acid, while leaving the other species in solution, by adding a polycationic precipitating agent to the solution and allowing it to form an insoluble complex with said desired nucleic acid, wherein the precipitating agent is a highly charged linear polymer that includes quaternary amino groups, and further wherein the precipitating agent is added to the solution in the presence of a salt, wherein the amount of said precipitating agent is sufficient to attain a charge ratio $[+]/[-]$ between the precipitating agent and nucleic acid of \geq about 0.5 during the precipitation, further wherein the salt concentration of the solution is controlled during the addition of the precipitating agent to allow quantitative selective precipitation of the nucleic acid/polycation complex.

Claim 2 (previously presented): The method of claim 1, wherein the precipitating agent includes at least 25 positive charges.

Claim 3 (previously presented): The method of claim 1, further comprising a step of estimating the number of negative charges in the biological solution before addition of the precipitating agent.

Claim 4 (previously presented): The method of claim 1, wherein the desired nucleic acid is a plasmid.

Claim 5 (previously presented): The method of claim 1, wherein the biological solution is a cell lysate.

Claim 6 (previously presented): The method of claim 5, wherein the cell lysate is an alkaline cell lysate.

Claim 7 (previously presented): The method of claim 5, wherein the cell lysate is pre-treated before addition of the precipitating agent.

Claim 8 (previously presented): The method of claim 1, wherein the ratio of polymer molecular weight (gram per mol)/polymer charge (number of charges per polymer chain) in the precipitating agent is less than about 1000.

Claim 9 (previously presented): The method of claim 8, wherein the precipitating agent comprises at least about 500 positive charges.

Claim 10 (previously presented): The method of claim 1, wherein the precipitating agent is selected from the group consisting of poly(N,N'-dimethyldiallylammonium chloride), aliphatic ionene bromides and a poly(N-alkyl -4-vinylpyridinium halides).

Claim 11 (cancelled)

Claim 12 (previously presented): The method of claim 1, further comprising recovering the desired nucleic acid from the precipitate so formed by separating the precipitate from the solution and subsequent dissolution and/or destruction of the complex.

Claim 13 (previously presented): The method of claim 12, wherein the insoluble complex is dissolved and/or destructed by addition of a salt to free the desired nucleic acid in the solution.

Claim 14 (previously presented): The method of claim 12, wherein the dissolution and/or destruction of the complex is performed at a salt concentration above 0.5 M depending on the charge ratio $[+]/[-]$ and salt nature.

Claim 15 (cancelled)

Claim 16 (previously presented): The method of claim 12, further comprising isolating a first desired nucleic acid from the first precipitation formed, to separate said first precipitation from the biological solution and to precipitate a second desired nucleic acid from the remaining solution by a continued addition of precipitating agent.

Claim 17 (previously presented): The method of claim 1 for isolating nucleic acids that have been subjected to modification reactions.